SI done 94

STEP WORK PLAN
for
DECATUR/BARDING & SPAWR LANDFILL

ILD 984 766 378

IEPA LAND # L115 804 0012

CONFIDENTIAL

Site Location: 965 S. Wyckles Road, Decatur, Illinois

Expected Date of STEP Inspection: November 13 & 14, 1996

INTRODUCTION

In 1993 a CERCLA Screening Site Inspection was conducted at the Decatur/Barding & Spawr Landfill located in Decatur Illinois. Sampling performed at that time established an observed release of one pesticide and eight inorganic substances to the groundwater pathway, and one pesticide and arsenic in a leachate channel. Some leachate channels run toward the Sangamon River. Because of the presence of nearby groundwater and surface water targets, the site has advanced to the STEP stage of the CERCLA process.

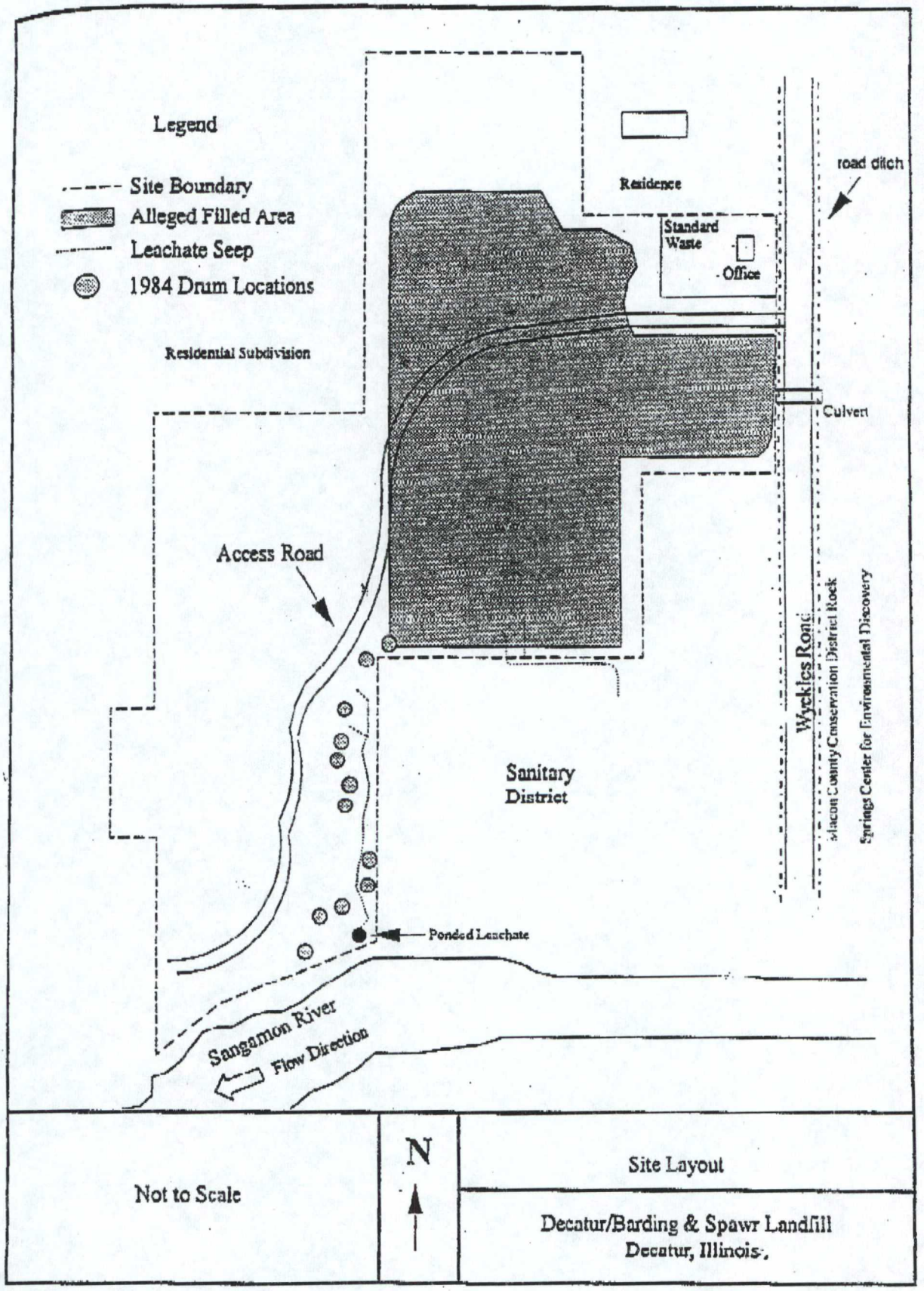
SITE DESCRIPTION

The site is located along Wyckles Road, south of US Route 36, just west of Decatur, Illinois. Most of the site is situated in the northeast quarter of Section 21, Township 16 North, Range 1 East, in Macon County. The irregularly-shaped property occupies approximately 66 acres, although only approximately one-half of this area was filled. To the north the site is bordered by Cantrell Road and residential areas; to the east, the site is bordered by Wyckles Road with the Macon County Conservation District Rock Springs Center beyond. To the south the site is bordered by a Decatur Sanitary District facility (along Wyckles Road) and the Sangamon River (west of the sanitary district facility). Residential areas and woodland are situated to the west. Refer to Site Layout Map.

The inactive landfill occupies about one-half of the property. The northeast corner of the property is occupied by Standard Waste, a garbage hauling and recycling business.

At the time of the site reconnaissance (October 1, 1996) the site was covered with tall, thick vegetation. Although no active leachate seeps were found at that time, several leachate channels were seen along the eastern-most site border, areas adjacent to the sanitary facility, and some areas near the southern-most border directed toward the river.

STEP/ESI approved 10/18/96 51.51 - 5757 - Start ES Work Plan


Legend
Site Boundary
Alleged Filled Area
Leachate Seep
1984 Drum Locations
Residential Subdivision
Residence
road ditch
Standard Waste
Office
Culvert
Access Road
Wyckles Road
Macon County Conservation District Rock Springs Center for Environmental Discovery
Sanitary District
Ponded Leachate
Sangamon River
Flow Direction
Not to Scale
N
Site Layout
Decatur/Barding & Spawr Landfill
Decatur, Illinois

SITE HISTORY

Utilization of the property prior to landfilling operations are unknown. Landfilling operations began in the mid 1950s by Macon County Landfill Corporation, which leased the property. The site was used for landfilling industrial and municipal wastes. During active periods, the landfill presumably operated as both an open dump and a landfill. A pit for disposing of liquid industrial waste was allegedly located onsite. From 1962 until 1980, James Spawr and Junior Barding Jr. operated a construction firm on two acres of the property. Since the 1980s they have operated Standard Waste at this location.

OBJECTIVE

The objective of this sampling event will be to determine whether private wells near the site area are impacted, to further characterize the source, and to investigate the possibility of the site impacting the Sangamon River. This will be accomplished by collecting groundwater samples from the residential area to the northwest of the site, by collecting leachate or soil from leachate channels in the area near the river, and possibly by collecting a sediment sample from the river itself.

SITE GEOLOGY

Site-specific geological information is not available for the Barding & Spawr site. Regional geological information suggests that the area consists of overburden composed of loess (silt), loamy and sandy till, and laterally discontinuous silty clay and clay till. Underlying these units Pennsylvanian shale is expected with interbedded sandstone, limestone, and coal. The Pennsylvanian bedrock can only produce small quantities of groundwater.

PHYSICAL HAZARDS

Physical hazards associated with the site consist mainly of uneven terrain, which is especially hazardous in areas where heavy vegetation conceals the inconsistencies.

CHEMICAL HAZARDS

Little is known about the wastes accepted at the site. Sampling conducted by the IEPA's regional office and by past CERCLA activities at the site have identified eight inorganic substances at elevated concentrations in groundwater and in leachate channels, and possibly aromatic hydrocarbons in leachate. Inorganics identified in groundwater samples are cobalt, copper, manganese, mercury, nickel, potassium, sodium, and zinc. Arsenic and alpha chlordane were found at elevated levels in a leachate channel. Aluminum, chromium, iron, nickel, and potassium were found at elevated concentrations in onsite soil. Organic compounds detected in leachate samples include bis(2-ethylhexyl)phthalate, benzene, chlorobenzene, ethylbenzene, xylene, naphthalene, and benzene.

DERMAL AND RESPIRATORY PROTECTION

Level D protection (including protective gloves) will be used with air monitoring (using the toxic vapor analyzer) during sample collection. Both PID and FID will be utilized, unless it rains or drizzles, in which case only the FID will be utilized. If the TVA indicates an increase of 0 - 5 units above background in the breathing zone, respirators will be worn.

Should higher levels be detected, the sampling team will stop the inspection and leave the area until appropriate respiratory equipment is obtained.

PROPOSED SAMPLING PLAN

Table 1 lists the samples to be collected and the objective of each sample. See Sample Location map for approximate location of each sample.

SOIL/SEDIMENT SAMPLE LOCATIONS

A total of nine soil/sediment samples will be collected. One sample will be collected from an area along the river designated as a wetland, one river sediment sample will be collected, and one sample will be collected from a leachate channel along the eastern property line. Two additional soil samples will be collected, one from a leachate drainage area near the sanitary district, and one from a depressed area located approximately in the middle of the site. The three remaining samples will consist of two background samples and one duplicate soil sample.

GROUNDWATER SAMPLE LOCATIONS

Previous groundwater sampling has occurred at monitor wells located to the south of the site (Decatur Sanitary District), and from a private well located near the northeast corner of the site, as well as a Standard Waste well located at the northeast corner of the site. Two additional groundwater samples will be collected from private residential wells located to the northwest of the site. (A background sample and duplicate sample will be collected also.) The exact location of these samples is not yet known.

SAMPLE COLLECTION/HANDLING PROCEDURES

Soil/sediment samples will be collected using stainless steel trowels. A different trowel will be used at each sample location, eliminating the need for field decontamination. Sample material will be transferred directly from the trowel into sample jars. The duplicate sample material will be mixed in a stainless steel pan prior to placement into sample jars. Once the sample material has been placed in sample jars, each jar will be placed in a plastic bag, and packed in coolers with blue ice to keep the sample temperature at 4° C. To ensure safe delivery of sample jars, Perlite will be added to the coolers. The coolers will be delivered to a Federal Express office for shipment to the laboratories.

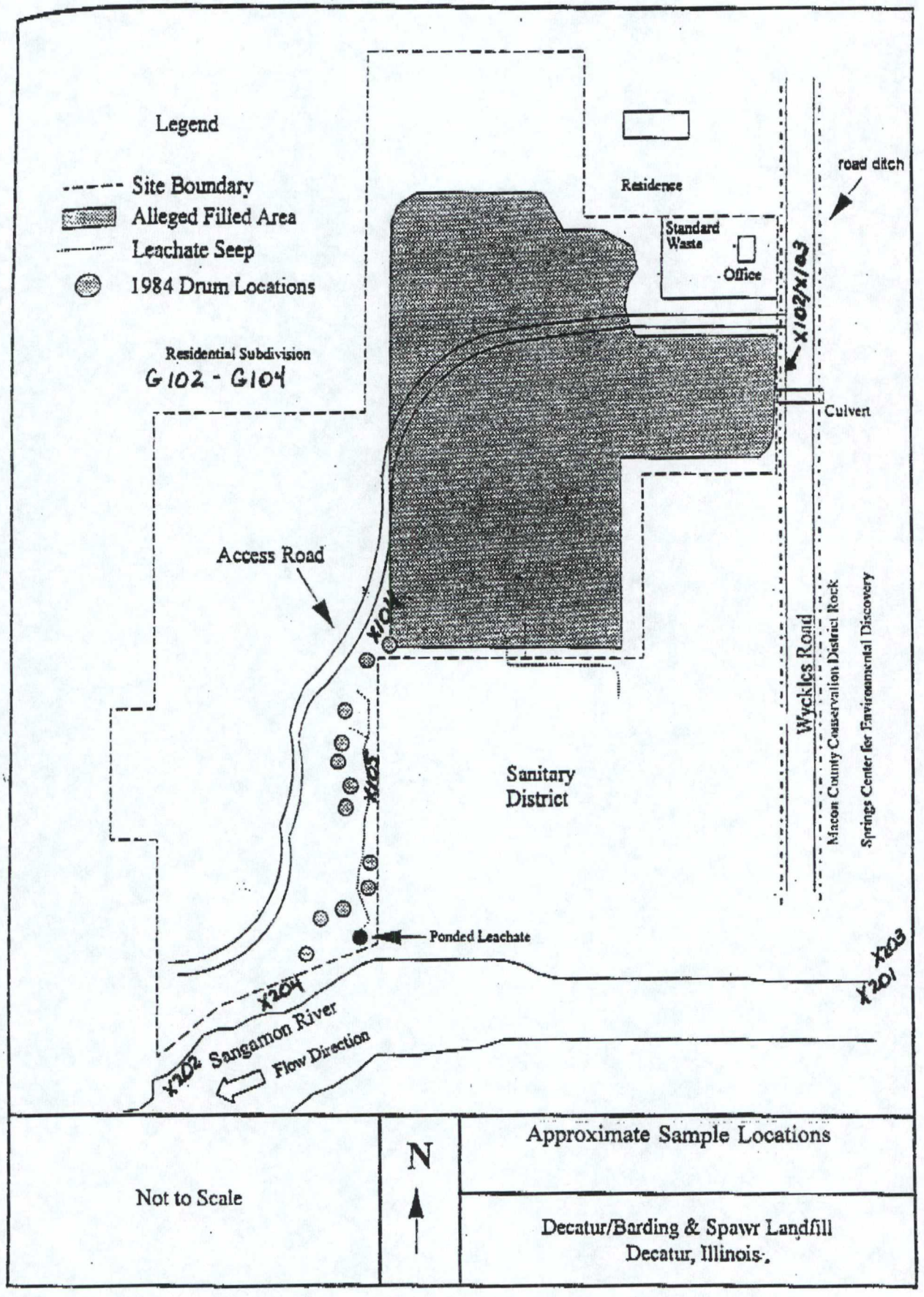
Groundwater samples will be collected directly from the tap. The water will be allowed to run until the pH, temperature, and conductivity stabilize. Then water from the tap will be collected directly into sample bottles. Preservatives will be added to the appropriate samples.

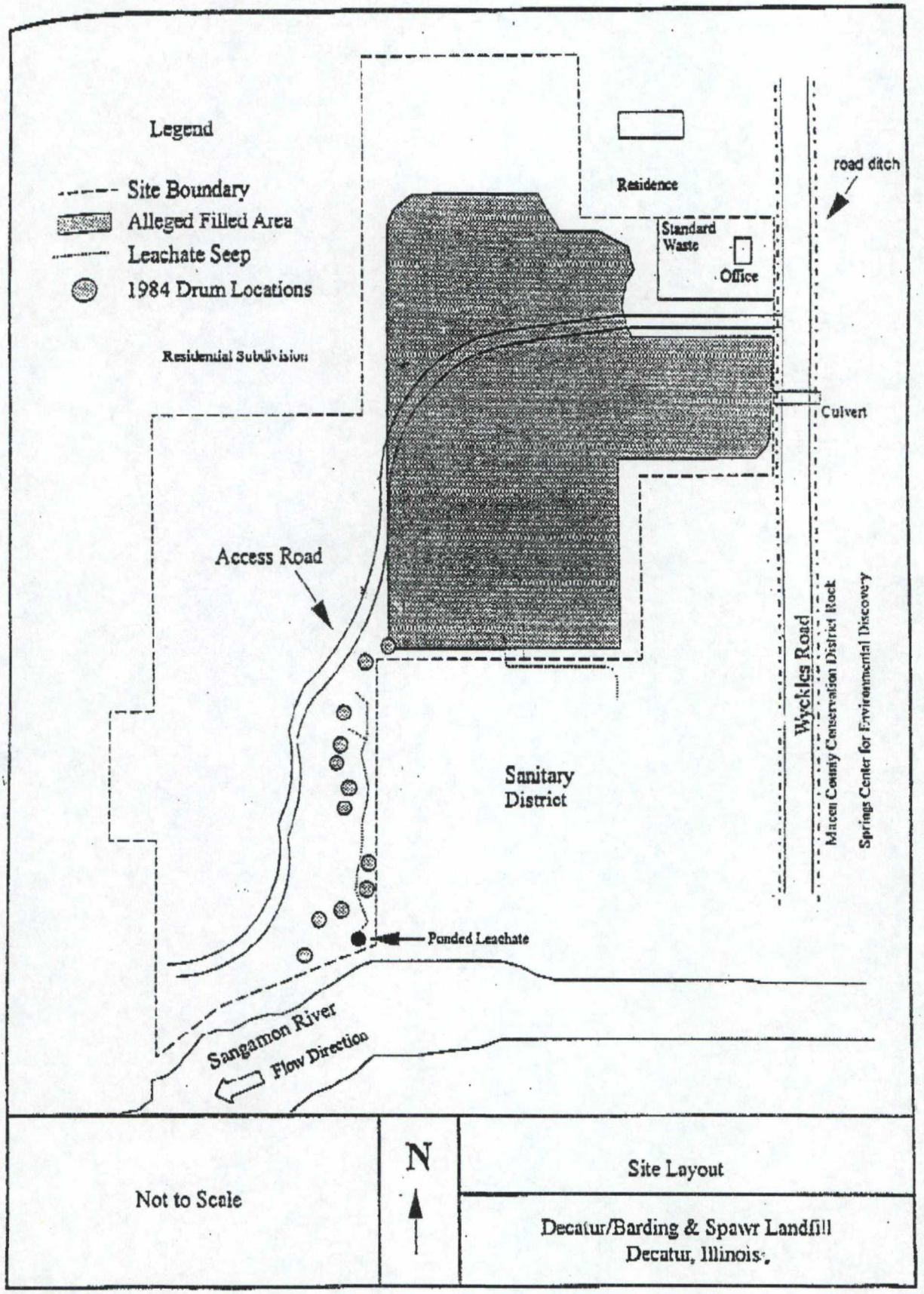
LABORATORIES

The samples will be shipped via Federal Express to USEPA Federal Contract Laboratories. The laboratories to be utilized will be arranged through the USEPA Lab Management Program, and the specific laboratories will not be known until a few days prior to the inspection. All samples will be analyzed for the full Target Compound List/Target Analyte List using the USEPA CLP Protocol Method for analyzing organic and inorganic compounds.

Decatur/Barding & Spawr Landfill
TABLE 1
SAMPLE TYPE AND LOCATION

SAMPLE	MATRIX	LOCATION
X201	Sediment	Background sediment from Sangamon River upstream of site, east of Wyckles Road.
X202	Sediment	Sediment from Sangamon River, where river borders the site.
X203	Sediment	Background for wetland sample.
X204	Sediment	Wetland sample collected from designated wetland along Sangamon River.
X101	Soil	Background soil sample from Conservation District property.
X102	Soil	Soil from eastern site border where leachate samples have been a problem.
X103	Soil	Soil Duplicate.
X104	Soil	Soil from depression located approximately in middle of site.
X105	Soil	Soil from leachate channel near Sanitary District property.
G101	Grd. Water	Background residential well sample from well located north of site along Wyckles Rd.
G102	Grd. Water	Residential well located northwest of site.
G103	Grd. Water	Duplicate of G102.
G104	Grd. Water	Residential well located northweet of site.


Legend
Site Boundary
Alleged Filled Area
Leachate Seep
1984 Drum Locations
Residential Subdivision
G102 - G104
Residence
Standard Waste
Office
road ditch
X102/X103
Culvert
Access Road
X104
X105
Sanitary District
Wyckles Road
Macon County Conservation District Rock
Springs Center for Environmental Discovery
Ponded Leachate
X203
X201
X101
X204
X202
Sangamon River
Flow Direction
Not to Scale
N
Approximate Sample Locations
Decatur/Barding & Spawr Landfill
Decatur, Illinois.


Legend
Site Boundary
Alleged Filled Area
Leachate Seep
1984 Drum Locations
Residential Subdivision
Residence
Standard Waste
Office
road ditch
Culvert
Access Road
Wyckles Road
Macon County Conservation District Rock
Springs Center for Environmental Discovery
Sanitary District
Ponded Leachate
Sangamon River
Flow Direction
Not to Scale
N
Site Layout
Decatur/Barding & Spawr Landfill
Decatur, Illinois

SITE HISTORY

Utilization of the property prior to landfilling operations are unknown. Landfilling operations began in the mid 1950s by Macon County Landfill Corporation, which leased the property. The site was used for landfilling industrial and municipal wastes. During active periods, the landfill presumably operated as both an open dump and a landfill. A pit for disposing of liquid industrial waste was allegedly located onsite. From 1962 until 1980, James Spawr and Junior Barding Jr. operated a construction firm on two acres of the property. Since the 1980s they have operated Standard Waste at this location.

OBJECTIVE

The objective of this sampling event will be to determine whether private wells near the site area are impacted, to further characterize the source, and to investigate the possibility of the site impacting the Sangamon River. This will be accomplished by collecting groundwater samples from the residential area to the northwest of the site, by collecting leachate or soil from leachate channels in the area near the river, and possibly by collecting a sediment sample from the river itself.

SITE GEOLOGY

Site-specific geological information is not available for the Barding & Spawr site. Regional geological information suggests that the area consists of overburden composed of loess (silt), loamy and sandy till, and laterally discontinuous silty clay and clay till. Underlying these units Pennsylvanian shale is expected with interbedded sandstone, limestone, and coal. The Pennsylvanian bedrock can only produce small quantities of groundwater.

PHYSICAL HAZARDS

Physical hazards associated with the site consist mainly of uneven terrain, which is especially hazardous in areas where heavy vegetation conceals the inconsistencies.

CHEMICAL HAZARDS

Little is known about the wastes accepted at the site. Sampling conducted by the IEPA's regional office and by past CERCLA activities at the site have identified eight inorganic substances at elevated concentrations in groundwater and in leachate channels, and possibly aromatic hydrocarbons in leachate. Inorganics identified in groundwater samples are cobalt, copper, manganese, mercury, nickel, potassium, sodium, and zinc. Arsenic and alpha chlordane were found at elevated levels in a leachate channel. Aluminum, chromium, iron, nickel, and potassium were found at elevated concentrations in onsite soil. Organic compounds detected in leachate samples include bis(2-ethylhexyl)phthalate, benzene, chlorobenzene, ethylbenzene, xylene, naphthalene, and benzene.

DERMAL AND RESPIRATORY PROTECTION

Level D protection (including protective gloves) will be used with air monitoring (using the toxic vapor analyzer) during sample collection. Both PID and FID will be utilized, unless it rains or drizzles, in which case only the FID will be utilized. If the TVA indicates an increase of 0 - 5 units above background in the breathing zone, respirators will be worn.

Decatur/Barding & Spawr Landfill
TABLE 1
SAMPLE TYPE AND LOCATION

SAMPLE	MATRIX	LOCATION
X201	Sediment	Background sediment from Sangamon River upstream of site, east of Wyckles Road.
X202	Sediment	Sediment from Sangamon River, where river borders the site.
X203	Sediment	Background for wetland sample, collected upstream of site, along Sangamon River.
X204	Sediment	Wetland sample collected from designated wetland along Sangamon River, near southern site boundary.
X101	Soil	Background soil sample from Conservation District property.
X102	Soil	Soil from eastern site border where leachate samples have been a problem.
X103	Soil	Soil Duplicate.
X104	Soil	Soil from depression located approximately in middle of site.
X105	Soil	Soil from leachate channel near Sanitary District property.
G101	Grd. Water	Background drinking water well sample from county property, south of river. (G102 and G103 will serve as triple volume)
G104	Grd. Water	Residential well located northwest of site.
G105	Grd. Water	Duplicate of G104.
G106	Grd. Water	Geoprobe sample from near southern site boundary.
G107	Grd. Water	Geoprobe sample from near center or southern site boundary (depending on site conditions).

Program, and the specific laboratories will not be known until a few days prior to the inspection. All samples will be analyzed for the full Target Compound List/Target Analyte List using the USEPA CLP Protocol Method for analyzing organic and inorganic compounds.

DECONTAMINATION

Decontamination of sampling equipment will have been performed prior to field work. This will be accomplished by first rinsing the tool with tap water, washing with tap water and liquid Alconox, rinsing with tap water and finally rinsing with distilled/deionized water. After drying, the equipment is wrapped in aluminum foil for transport to the field. Upon completion of field work, the equipment will again be decontaminated using the same procedure.

EMERGENCY INFORMATION

Hospital: Decatur Memorial Hospital
2300 N. Edward Street, Decatur
876-8121

Ambulance Service: Decatur Ambulance Service

Emergency: 911 Non-Emergency: 428-8641

Fire: Decatur Fire Department

Emergency: 911 Non-Emergency: 429-5201

Police: Decatur Police Department

Emergency: 911 Non- Emergency: 424-2711

HRS DOCUMENTATION RECORD
Decatur/Barding & Spawr - 11/07/96

1. Site Name: Decatur/Barding & Spawr
   (as entered in CERCLIS)

2. Site CERCLIS Number: ILD984766378

3. Site Reviewer: Judy Triller

4. Date: 11-7-96

5. Site Location: Decatur/Macon, Illinois
   (City/County,State)

6. Congressional District: 18

7. Site Coordinates: Unknown

   Latitude: Longitude:

	Score
Ground Water Migration Pathway Score (Sgw)	24.75
Surface Water Migration Pathway Score (Ssw)	100.00
Soil Exposure Pathway Score (Ss)	0.00
Air Migration Pathway Score (Sa)	0.00

Site Score	51.51

NOTE

EPA uses the terms "facility," "site," and "release" interchangeably. The term "facility" is broadly defined in CERCLA to include any area where hazardous substances have "come to be located" (CERCLA Section 109(9)), and the listing process is not intended to define or reflect boundaries of such facilities or releases. Site names, and references to specific parcels or properties, are provided for general identification purposes only. Knowledge regarding the extent of sites will be refined as more information is developed during the RI/FS and even during implementation of the remedy.

PREscore 3.0 - PRESCORE.TCL File 07/25/94 PAGE: 1
GROUND WATER MIGRATION PATHWAY SCORESHEET
Decatur/Barding & Spawr - 11/07/96

GROUND WATER MIGRATION PATHWAY Factor Categories & Factors	Maximum Value	Value Assigned
Likelihood of Release to an Aquifer Aquifer: Glacial Till		
1. Observed Release	550	550
2. Potential to Release		
2a. Containment	10	10
2b. Net Precipitation	10	0
2c. Depth to Aquifer	5	5
2d. Travel Time	35	35
2e. Potential to Release [lines 2a(2b+2c+2d)]	500	400
3. Likelihood of Release	550	550
Waste Characteristics		
4. Toxicity/Mobility	*	1.00E+04
5. Hazardous Waste Quantity	*	100
6. Waste Characteristics	100	32
Targets		
7. Nearest Well	50	2.00E+01
8. Population		
8a. Level I Concentrations	**	0.00E+00
8b. Level II Concentrations	**	0.00E+00
8c. Potential Contamination	**	9.60E+01
8d. Population (lines 8a+8b+8c)	**	9.60E+01
9. Resources	5	0.00E+00
10. Wellhead Protection Area	20	0.00E+00
11. Targets (lines 7+8d+9+10)	**	1.16E+02
12. Targets (including overlaying aquifers)	**	1.16E+02
13. Aquifer Score	100	24.75
GROUND WATER MIGRATION PATHWAY SCORE (Sgw)	100	24.75

* Maximum value applies to waste characteristics category.
** Maximum value not applicable.

PREscore 3.0 - PRESCORE.TCL File 07/25/94 PAGE: 1
SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORESHEET
Decatur/Barding & Spawr - 11/07/96

SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT Factor Categories & Factors DRINKING WATER THREAT	Maximum Value	Value Assigned
Likelihood of Release		
1. Observed Release	550	550
2. Potential to Release by Overland Flow		
2a. Containment	10	10
2b. Runoff	25	0
2c. Distance to Surface Water	25	25
2d. Potential to Release by Overland Flow [lines 2a(2b+2c)]	500	250
3. Potential to Release by Flood		
3a. Containment (Flood)	10	10
3b. Flood Frequency	50	25
3c. Potential to Release by Flood (lines 3a x 3b)	500	250
4. Potential to Release (lines 2d+3c)	500	500
5. Likelihood of Release	550	550
Waste Characteristics		
6. Toxicity/Persistence	*	1.00E+04
7. Hazardous Waste Quantity	*	100
8. Waste Characteristics	100	32
Targets		
9. Nearest Intake	50	0.00E+00
10. Population		
10a. Level I Concentrations	**	0.00E+00
10b. Level II Concentrations	**	0.00E+00
10c. Potential Contamination	**	0.00E+00
10d. Population (lines 10a+10b+10c)	**	0.00E+00
11. Resources	5	0.00E+00
12. Targets (lines 9+10d+11)	**	0.00E+00
13. DRINKING WATER THREAT SCORE	100	0.00

* Maximum value applies to waste characteristics category.
** Maximum value not applicable.

PREscore 3.0 - PRESCORE.TCL File 07/25/91 PAGE: 2
SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORESHEET
Decatur/Barding & Spawr - 11/07/96

SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT Factor Categories & Factors HUMAN FOOD CHAIN THREAT	Maximum Value	Value Assigned
Likelihood of Release		
14. Likelihood of Release (same as line 5)	550	550
Waste Characteristics		
15. Toxicity/Persistence/Bioaccumulation	*	5.00E+08
16. Hazardous Waste Quantity	*	100
17. Waste Characteristics	1000	320
Targets		
18. Food Chain Individual	50	4.50E+01
19. Population		
19a. Level I Concentrations	**	0.00E+00
19b. Level II Concentrations	**	3.00E-02
19c. Pot. Human Food Chain Contamination	**	0.00E+00
19d. Population (lines 19a+19b+19c)	**	3.00E-02
20. Targets (lines 18+19d)	**	4.50E+01
21. HUMAN FOOD CHAIN THREAT SCORE	100	96.06

* Maximum value applies to waste characteristics category.
** Maximum value not applicable.

TELECOPIER COVER PAGE

DATE: 10/31/96 TIME: 11:30 am

PLEASE DELIVER THESE 9 PAGES.
INCLUDING THIS COVER PAGE TO:

NAME: Sonia Vega

FIRM or LOCATION: US EPA

CITY: Chicago

COMPANY PHONE NUMBER: 312-886-7191

FAX NUMBER: 312-886-0753

FROM: Judy Triller

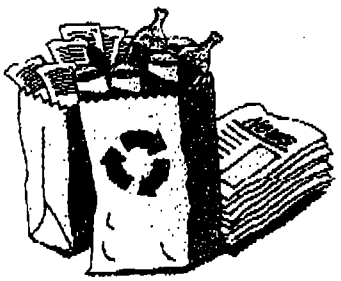
MEMO: Sonia,
We don't have a copy of the SSL PreScore in our file. Would it be possible to get that?

OFFICE PHONE NUMBER: 217-524-1654

IF YOU DID NOT RECEIVE ALL THE PAGES OR PAGES ARE ILLEGIBLE,
PLEASE CONTACT US AT ONE OF THE FOLLOWING NUMBERS

OUR TELECOPIER NUMBER IS (217) 782-3258
OPERATORS PHONE NUMBER IS (217) 782-6761

EPA OFFICE USE ONLY
✓ RETURN TO ORIGINATOR AFTER SENDING
DISCARD
C.C. OR OTHER _____



TELECOPIER COVER PAGE

DATE: 11-7-96 TIME: 8:05 AM

PLEASE DELIVER THESE 15 PAGES.
INCLUDING THIS COVER PAGE TO:

NAME: Jeanne Griffin

FIRM or LOCATION: USEPA

CITY: Chicago

COMPANY PHONE NUMBER: 312-886-3007

FAX NUMBER: 312-886-0753

FROM: Judy Triller IEPA

MEMO: Decatur Barding + Spawr Workplan

OFFICE PHONE NUMBER: 217-524-1654

IF YOU DID NOT RECEIVE ALL THE PAGES OR PAGES ARE ILLEGIBLE,
PLEASE CONTACT US AT ONE OF THE FOLLOWING NUMBERS

OUR TELECOPIER NUMBER IS (217) 782-3258
OPERATORS PHONE NUMBER IS (217) 782-6761

EPA OFFICE USE ONLY
✓RETURN TO ORIGINATOR AFTER SENDING
DISCARD
c.c. OR OTHER _____